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Searching for Inclusion: The Impact of Environmental Barriers on People with Physical Disabilities

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SEARCHING FOR INCLUSION: THE IMPACT OF ENVIRONMENTAL
BARRIERS ON PEOPLE WITH PHYSICAL DISABILITIES

A Project
Presented to the
Faculty of
California State University,
San Bernardino

In Partial Fulfillment
of the Requirements for the Degree
Master of Social Work

by
Angela Yvonne Coate

June 2014

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ABSTRACT

People with physical disabilities face challenges each day when trying to navigate a world filled with environmental and architectural barriers. Research indicates that environmental barriers isolate and prevent many people with physical disabilities from accessing and participating in the community and society. This research study directly applied quantifiable investigative methods through the dissemination of anonymous, online surveys that obtained a total of 363 participants who met the requirements of being between the ages of 18 and 65, and who have a medically diagnosed physical disability in order to identify key factors leading to the isolation among physically disabled persons. This study also discovers a relationship between environmental barriers and isolation among people with physical disabilities, and effectively establishes that the majority of participants identified environmental barriers as being the leading cause of their isolation and exclusion from society. Moreover, research acquired through this study uncovers the previously concealed realization that many individuals do not feel there is an effort being made to ensure that buildings and environments are accessible for people with physical disabilities; and further examines the colossal need for advocacy and change within ADA guidelines to create a more acceptable and adaptable solution for reducing or eliminating environmental and architectural barriers.

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First and foremost, Lord, thank you for creating me in Your perfect image, for blessing me with unique gifts and abilities that permit me to shine and be an example of You, for allowing me to exist and thrive on this beautiful Earth, and to live this incredibly magnificent life you have prepared for me. Thank you for consistently being by my side every step of the way throughout this astounding journey, and for giving me the confidence to believe in myself and chase my passion and determination to make a difference and change the world. All credit for my success and accomplishments go to you, Lord!

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DEDICATION

This thesis is dedicated to each and every beautiful, strong, courageous soul who lives with and faces physical challenges. It is your inspirational stories, bravery, and ability to persevere that stimulate me to venture on this lifelong expedition to be a voice and advocate for all people inflicted with physical impairments. May you find comfort and hope in knowing that your value, worth, and extraordinary resilience has ambitiously unleashed the fighter within me and many other activists to empower, promote, and create change within a society that often discards and disapproves of differently-abled people. May you always make the vital choice to let your uniqueness shine and to not allow yourself to be defined by the stigmatizing labels of this world. Know that you matter and you are equipped with endless abilities to make a difference in the world - just as you have made a difference in mine.

*“There are so many people out there who will tell you that you can’t.
What you’ve got to do is turn around and say “watch me.”*

*“There is no greater disability in society than
the inability to see a person as more.”*

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CHAPTER ONE

INTRODUCTION

This chapter addresses a current and widespread problem affecting people with physical disabilities and their ability, or lack thereof, to navigate in an environment with many structural barriers. The purpose of the investigative study is defined, and includes an empirical research method that addresses and measures the issue. This chapter also highlights the importance of the study, as well as why the study is needed, and how the results of the study contributes to social work and related social service agencies.

Problem Statement

Maneuvering in the physical world is something many people take for granted. Curbs, stairs, jagged or obstructed sidewalks and paths, and narrow passageways are only a few of the common obstacles people walk over, around, or through on a daily basis. For those who have a physical disability, those obstacles can be monumental barriers. For nondisabled individuals, “it can be hard to recognize and anticipate the less obvious barriers that a person with a physical disability might encounter on a daily basis” (National Association of County and City Health Officials, 2006, p. 3).

In order to enhance one’s understanding of the full extent of the problem, it is first crucial to ascertain what constitutes a person with a physical disability. According to the Physical Disability Council (2009), “a physical disability can be

defined as total or partial loss of a person's bodily functions (e.g. walking, gross or fine motor skills, bladder control, etc.) and total or partial loss of a part of the body (e.g. a person with an amputation)". A physical disability can encompass an impairment in multiple body systems including, but not limited to neurological and musculoskeletal disorders. A physical disability can either be acquired at birth or obtained later in life due to illness or accident. Many people who have a physical disability usually experience substantial long term, permanent affects, which can cause hardship on an individual's ability to carry out routine day-to-day activities.

To a disturbing degree, barriers in the built environment can prevent people with physical disabilities from visiting social, commercial, and recreational establishments for fear of not feeling safe or able to enter a facility that is equipped with stairs, narrow doorways, inaccessible bathrooms, and numerous other unforeseen, potentially hazardous architectural barriers. As a result, these obstacles and barriers force people with physical disabilities to isolate, which consequently prevents them from thriving in their life and in society in general.

According to the Centers for Disease Control and Prevention (National Association of County and City Health Officials, 2006, p. 1), there are approximately 54 million people in the United States who have a disability that considerably impairs an individual's somatic functioning and mobility. Due to the increase in negative health influences on this population, as well as the expected growth of the elderly population, the Center for Disease Control and Prevention states, "the estimate of people who have a disability is projected to increase to

close to 70 million by the year 2025” (National Association of County and City Health Officials, 2006, p. 1).

In addition, the U.S. Census (Gray, *et al.*, 2003, p. 30) exclusively found that over 18 million Americans have a physical disability that severely hinders them from navigating around various types of settings. Of those Americans with a physical disability, more than 14.2 million of them rely on using devices such as canes, walkers, scooters, and wheelchairs in order to assist them in moving about in their environment (Gray, *et al.*, 2003, P. 30). This number has been progressively rising every year.

Increased Isolation

People with physical disabilities are almost three times as likely as able-bodied individuals to experience isolation, often leading to difficulties participating in regular activities outside the home and an inability to maintain work or be self-sufficient (Ramesh, 2010). As people with physical disabilities incessantly face problems and barriers in the environment, it not only reduces or puts a massive strain on their opportunities, it can hold back their aspirations as well, therefore contributing to decreased hope and increased seclusion.

Sadly, more often than not, throughout the United States, “people with physical disabilities are seen as recipients of services and a burden rather than equal members of the community or society” (Kennedy, 2013, para. 4). This common misconception continues to endorse society’s communal disability-insensitive attitudes and behaviors, resulting in the exclusion of people with

physical disabilities. Although there has been much talk of encouraging the participation and community involvement of people with physical disabilities, when individuals with a physical disability are unable to access a barrier-filled environment, partaking in the community or society becomes virtually impossible. Consequently, these isolative-causing barriers, both environmental and attitudinal, can have an impactful adverse affect on an individual's self-esteem, sense of social respect, and overall dignity of life (Kennedy, 2013, para. 5).

As an organization dedicated to providing a barrier free, inclusive environment for each individual with a physical disability, Disability Rights California (2012), an organization that specifically serves the physically disabled population in the state of California, found that over 80% of the physically disabled clients they serve are unable to take part or contribute in the life of society due to the existence of environmental and/or architectural barriers. Furthermore, they discovered that people with physical disabilities are much less likely to participate in the public, social, or political life of society (Jovanovic, 2008).

Limitations of the Americans with Disabilities Act

Under the Americans with Disabilities Act (ADA), "access to the built environment for people with physical disabilities is required as a civil right" (The ADA Network, 2014). Signed into law by the President of the United States, George H.W. Bush, on July 26, 1990 after passing with tremendous bi-partisan Congressional support, the ADA was the first comprehensive declaration of

equality for people with disabilities (The ADA National Network, 2014). According to the ADA National Network (2014), “the ADA was and is designed to protect the rights of people with disabilities in all aspects of employment, in accessing public services as such transportation, and guaranteeing access to private establishments (places of public accommodation) such as restaurants, stores, hotels, and commercial buildings”.

Since the passing of the ADA law over two decades ago, “Congress has recognized that millions of Americans with disabilities continue to be isolated and segregated; faced with numerous restrictions and limitations; occupy an inferior status; and remain seriously disadvantaged” (Gould, 2004, p. 3). Yet, there has been no effort to determine whether the ADA is “working” and there has been no ADA research endeavor that has attempted to measure or evaluate the scope of ADA issues on a national level. The justification for not addressing the need for national exploratory studies is that “the ADA is too overwhelmingly comprehensive, covering: (1) the public and private sectors; (2) various levels of government, (3) a substantial amount of our nation’s infrastructure from the physical and built environment to the communications environment; and (4) millions of individual Americans with disabilities” (Gould, 2004, p. 3).

It is often assumed that the ADA removes each and every one of the barriers associated with living with a disability. Unfortunately, that is not the case, and many problems, such as easily understandable signage and various other lack of impediments to activities in the community are not covered by the ADA

(Kennedy, 2013). One large flaw in the ADA is that the law currently does not address the need for removal of presently existing barriers in the built environment; instead, the ADA only requires that society does not build or further create new barriers.

While the ADA provides clear values and principles of equal treatment for people with disabilities, the regulations and standards for delivering reasonable public modifications or accommodations are flawed with ambiguities. As noted previously, by law, social, commercial, and recreational establishments are mandated to provide reasonable accommodations for the physically disabled; however, the ADA law places an obscure limit on the requirement to remove existing architectural barriers or build new accessible routes where such removal or construction is “readily achievable” or does not cause “undue hardship”. The loophole, “readily achievable” and “undue hardship” simply means as long as it is “easily accomplishable and able to be carried out without much difficulty or expense” (Burgdorf, 1991, p. 191). Ultimately, this vague definition effectively allows for society to find an escape route to eliminating or providing an accessible environment for people with physical disabilities.

Possibly the biggest flaw of all is that “the enforcement of the ADA is strictly complaint driven with subsequent accessibility reviews rather than encompassing a prospective approach to ensuring accessibility on the front end” (National Association of County and City Health Officials, 2006, p.2). Basically, this means that unless an individual with a disability does not file or bring a

complaint to the ADA, businesses, communities, and society will not be enforced to comply with the law, thus actually condoning structural barriers that are not accessible to people with physical disabilities.

The ADA professedly operates under a conceptual framework by “speaking a language emphasizing empowerment, independence, and inclusion of all individuals with disabilities in every aspect of community life” (Gould, 2004, p. 2). However, there is little effort being made to demonstrate or ensure that framework is being followed and respected. As of now, the ADA only provides the minutest requirements for providing alternative architectural and environmental modifications, and even so, does not enforce those requirements.

Social inclusion for people with physical disabilities is at the true heart of the ADA law and regulations; however, during the research and design process, social inclusion for these individuals is often routinely lost in the details of the ADA policies, guidelines, safety standards, equipment selection, and budget restrictions (Kennedy, 2013). Currently, the ADA subsequently lacks and dismisses the need for research measures or analyses to address and resolve the issue of social inclusion as well as accessibility problems in the built environment for people with physical disabilities throughout the nation.

A Need for Change

People with physical disabilities have the same rights and privileges as others, including the right to fully participate in community life. After all, “an accessible, built environment is a core element of an inclusive society” (Bird,

2009, p. 30). Not only are people with physical disabilities disregarded by social and political structures, but these same structures are reflected in the built environment in which they live. Obstructions in the built environment effectively serve to reinforce the physical and psychosocial isolation associated with their physical disability. Essentially, as long as there are structural or architectural barriers in the way, people with physical disabilities lack autonomy, self-determination, and the means to pursue an active social and economic life, consequently secluding them from being able to thrive in their own environment.

Purpose of the Study

First, this study examines the reality that environmental barriers serve as leading factors isolating people with physical disabilities from being able to participate and prosper in their community and/or society, therefore greatly impacting an individual's ability to be independent and self-sufficient.

Second, this study is designed to enhance the knowledge of social workers and social service agencies on the importance of providing a barrier free environment for people with physical disabilities so that they can assist in helping clients to (1) live more autonomously with an enriched sense of self-determination, (2) be free from worry or fear about maneuvering around the environment, and (3) be unrestricted to participate in the society.

Third, this study addresses a vital need for change within current ADA laws and regulations in order to adopt a universally accepted architectural design that is environmentally barrier free and equally accessible to all people.

This study is designed to focus on people with a medically diagnosed physical disability who are between the ages of 18 and 65, and regardless of gender, ethnicity, race, or socioeconomic status. This study addresses critical questions related to an individual's ability to mobilize in their environment, be independent, and participate in the community or society.

The technique employed in this study was the quantitative research method. Quantitative methods allow for the researcher to collect a large amount of data in a relatively short period of time and at a low cost. The advantage of collecting a large amount of data is that it increases the validity of the research results. This quantitative survey design entails a large number of samples (n=363) representing the physically disabled population. For the purpose of this study, the substantial collection of valid, measurable quantitative data allows for the formulation of facts and uncovers distinguishing patterns in this research.

Significance of the Project for Social Work

People with a physical disability deserve to have the same rights and privileges as others, including the right to fully participate in community life. A core component in an inclusive society begins with creating an accessible, built environment (Kennedy, 2013). As long as there are structural or architectural barriers in the way, people with physical disabilities lack autonomy and the means to pursue an active social and economic life, consequently segregating and forbidding them from being able to thrive in their own environment.

Social workers have a responsibility to provide services to all people regardless of their abilities or lack thereof. In order to provide the most effective and empowering services that help enable clients to prosper in their life, it is, first and foremost, vital for social workers to educate themselves to develop cultural competency and a unique understanding of the needs of people who are physically disabled, and be able to accommodate them to the best of their abilities.

This study is capable of changing social work practice and settings by encouraging the advocacy for people with physical disabilities and promoting the implementation of universal architectural guidelines that allow all people to have equal access to services that sustain no environmental barriers (Felix, 2008, p. 38). By creating a barrier free environment, social workers would not only be respectfully demonstrating cultural competency, but also empowering and authorizing people with physical disabilities to freely access the services they need without encountering structural limitations that may otherwise turn an individual away from services. As advocates and supporters of basic human rights, social workers can educate and assist in creating a universal architectural design for their agencies and surrounding environment by (a) eliminating all curbs and stairs, (b) providing gentle (mildly inclined) ramps, handrails and functioning elevators, (c) increasing the amount of handicapped parking spaces in close proximity to building entrances, (d) creating smooth, even pathways free of debris, holes, or hurdles, (e) providing accessible furniture and bathroom

facilities, widened doorways, automatic open/close doors, and (f) appropriate braille and signage for the blind and deaf.

Many social service agencies abide by the bare minimum requirements of the ADA; however, with that said, many agencies are still unequipped to accommodate the physically disabled population (Felix, 2008, p. 40). With this study, social workers will gain insight and an understanding of the importance of modifying the architectural environment in order to serve one of the largest vulnerable and underserved populations, and effectively endorse a person's right to self-determination.

In addition, this study will help social workers recognize that providing a barrier free environment will instill hope in physically disabled clients and allow clients with physical disabilities to flourish and be autonomous, encourage clients to seek and obtain services without fear of not being able to access the premises, and permit social workers to remain true to the National Association of Social Workers (NASW) Code of Ethics by practicing advocacy skills on behalf of their clients.

Indubitably, this study has the potential to empower social workers and related social service agencies to develop and follow specific guideline and functions as similarly proposed by the Council on Social Work Education, such as (1) "to further the development of social work education curriculum materials related to the issue of disability and experiences of persons with disabilities, (2) identify and advocate for redress of procedures within social work practice and

education that impede full participation of people with disabilities, (3) recommend policy statements, revisions, and activities that advance the inclusive participation of people with disabilities, (4) offer consultation and assistance in all endeavors related to issues of disability, and (5) stimulate initiatives and activities that would bring the social, political, and economic issues of disability strongly within the framework of social work education and practice” (2014).

This study essentially has several hypotheses. Primarily, this study (1) seeks to discover that the data will support the fact that environmental barriers do significantly impact the seclusion of physically disabled persons, (2) this study anticipates that people with physical disabilities believe environmental barriers are a leading factor contributing to their isolation and/or fear of leaving their home, and (3) this study predicts that the majority of individuals who have a physical disability do not feel there is a significant effort being made to ensure that people with physical disabilities can access buildings and the environment.

CHAPTER TWO

LITERATURE REVIEW

Introduction

This chapter extensively identifies a handful of establishments and organizations that play a fundamental role in improving the accessibility needs of people with physical disabilities. This chapter also respectively examines previously captured empirical research that addresses the impact of environmental barriers on people with physical disabilities; reports gaps and flaws in the preceding research, and proposes new, innovative strategies for gathering further data. Furthermore, this chapter identifies key theories that will help guide and conceptualize new research methods.

Research Examining the Problem

There are numerous establishments and organizations throughout the United States that are dedicated to examining, addressing, problem-solving, and advocating for the comprehensive needs of people with disabilities. This study has identified six of the most instrumental groups and organizations that actively participate in the advancement of removing barriers, facilitating an inclusive environment, and empowering people with disabilities to lead wholesome, all-encompassing lives.

First, the Mobility, Disability, Participation, and Environment Project (MDPEP) at Washington University has conducted, and continues to conduct,

one of the leading research projects attempting to discover common environmental barriers and facilitators to participation for mobility-impaired individuals (Gray, *et al.*, 2003, p. 31).

For the MDPEP to accomplish this goal, a dynamic, interactive measurement system has been developed that consists of three assessment tools (Gray, *et al.*, 2003, p. 31). The first assessment tool contains existing measures of functional capacities of people with mobility limitations. The second tool, known as the Participation Survey of Mobility Limited People, is used to measure participation in daily activities. The third and final tool consists of a list of environmental barriers and facilitators, known as the Facilitators and Barriers Survey for Mobility Limited People. This measurement system is able to detect changes in participation by people with physical disabilities either when their personal capacity increases or after their environment is made more accessible (Gray, *et al.*, 2003, p. 31).

Second, established in 1978, the Interagency Committee on Disability Research (ICDR) was designed to promote and facilitate interagency disability research partnerships, coordination, and collaboration. Since its creation almost four decades ago, the ICDR (2014) has been influential in carrying out congressionally required actions and offering recommendations on disability and rehabilitation policies and regulations. The ICDR mission is as follows: “to enhance cohesive communication and information sharing among federal

departments, offices, agencies, and stakeholders conducting disability and rehabilitation research and associated activities” (2014, para. 1).

The four strategic goals of ICDR include (1) identifying gaps in research and improve information sharing among federal partners, (2) facilitate and increase opportunities for joint disability and rehabilitation research among federal departments and agencies, (3) foster innovation to create shared solutions, and (4) encourage investments in government-wide coordination and collaboration on disability and rehabilitation research. (2014, para. 2).

Third, in affiliation with the ICDR and as a component of the United States Department of Education Office of Special Education and Rehabilitation Services (OSERS), the National Institute on Disability and Rehabilitation Research is one of the chief federal agencies that encourages and supports applied research, training, and development to improve the lives of individuals with disabilities. The mission of the NIDRR (United States Department of Education, 2014, para. 1) is to enhance, generate, and promote the use of new, effectual knowledge in improving the ability of individuals with disabilities to participate and perform activities of their choice within their community, and to expand society’s capacity to provide full opportunities and accommodations for people with disabilities. To do this, the NIDRR “conducts comprehensive and coordinated programs of research and related activities to maximize the full inclusion, social integration,

employment, and independent living of individuals of all ages with a disability” (United States Department of Education, 2014, para. 2).

Fourth, created in 1973 and now currently one of the leading sources of information on accessible design, the United States Access Board (USAB) is an independent federal agency dedicated entirely to advancing full access and inclusion for all. The USAB exclusively “promotes the equality for people with disabilities through leadership in accessible design and the development of accessibility guidelines and standards” (2014, para. 2). The mission of the USAB is “to ensure access to federally funded facilities, and to develop and maintain design criteria for the built environment, transit vehicles, telecommunications equipment, medical diagnostic equipment, and information technology” (2014, para. 3). The USAB (2014) maintains their mission by enforcing accessibility standards that cover federally funded facilities, and by providing nation-wide technical assistance and training on the requirements for an accessible design. The USAB (2014) is specifically structured to function as a coordinating body among federal agencies and to represent the public, predominantly people with disabilities. A unique feature and requirement of the USAB is that thirteen of the twenty-five members that serve as representatives on the board must have a disability.

Fifth, the American Association on Health and Disability (AAHD) is a national cross-disability non-profit organization committed to promoting the health and wellness initiatives through the lifespan of people with disabilities. Founded

in the mid 1980s, AAHD “is the only national organization specifically dedicated to integrating public health and disability into the overall public health agenda” (2014, para. 1). The main purpose of the AAHD is “to advance theory, knowledge, and practice in reducing the incidence of secondary conditions, improving accessibility by eliminating barriers, and reducing health disparities among people with disabilities” (2014, para. 3).

The AAHD is responsible for a number of duties including but not limited to: (1) representing people with disabilities in significant national activities related to health and disability, disability policy, disability research, and disability services, (2) partnering with healthcare and disability organizations, academic research institutions and federal agencies, (3) sponsors conferences and symposiums on topics related to disability and health, (4) advocates and supports programs that improve the lives of people with disabilities on the national level, and (5) holds leadership roles on national coalitions and task forces in both the private and public sector. (2014, para. 5).

Sixth, another organization that researches and addresses the impact of environmental barriers on physically disabled persons is the Centers for Independent Living (CIL), which has several agencies scattered throughout California. Founded in 1972, CIL (2012) was the world’s first Independent Living Center, and is a services and advocacy organization run by and for people with disabilities. CIL “works with many community organizations to make them more

accessible, encourages people with disabilities to advocate for themselves, and works to open doors in the community to full participation and access for all people” (Centers for Independent Living Inc., 2012, para. 3).

Gathered Empirical Research

Developed by the World Health Organization and the Centers for Disease Control and Prevention, a conceptual model has been proposed and conducted that shows determinants of the disabling process and the promotion of opportunity that influences quality of life (Patrick, 2000, p. 2). Their conceptual model attempts to show points of intervention to promote opportunity for disabled persons to thrive in their environment, and to increase their overall quality of life.

This conceptual model examined four major planes of experiences, depicted as layers, that together describe the context of life for a person with a physical disability: the total environment, the disabling process, opportunity, and quality of life (Patrick, 2000, p. 2). Out of 184 disabled participants, 74% reported substantial lack of opportunity to participate in the environment due to restricted accommodations, which resulted in a significant impact in their overall quality of life (Patrick, 2000, p. 3). Of the four major components, research found that the restriction of accommodations ultimately affected a mobility-impaired person’s ability to live independently, attain economic self-sufficiency, achieve equality of rights, and full participation to take part in community activities for work or recreation (Patrick, 2003, p. 5).

The Louis Harris Organization, which supported one of the first nationwide polls (known as the Harris Poll) conducted by persons with disabilities, has also sought to ask a number of questions regarding the social integration and activities of Americans with disabilities (Burgdorf, 1991, p. 183). According to Burgdorf, “the investigators discovered that people with disabilities are an extremely isolated segment of the population” (1991, p. 183). Specific findings of the Harris poll (Burgdorf, 1991, p. 184) included the following:

- Two-thirds of all disabled Americans never went to a movie theater.
- Two-thirds of all disabled persons never went to a sports event, compared to 50% of all adults.
- Disabled people are three times more likely than nondisabled people to never eat in restaurants.
- Seventeen percent of disabled people never eat in restaurants, compared with 5% of nondisabled people.

The Harris Poll findings concluded that the preeminent reason why people with disabilities do not participate in various aspects of commercial, social, and recreational activities - activities that are a routine part of ordinary life for most other Americans - is because they do not feel able to participate safely due to environmental barriers and lack of accessible public accommodations (Californians for Disability Rights Inc., 2012). The Harris Poll further found that 65% of all individuals with disabilities reporting curtailments of their activities said that the most influencing limitation leading to their isolation from the community

and society is the inaccessibility of buildings and restrooms (Burgdorf, 1991, p. 186).

In 2008, the Washington University School of Medicine conducted a subjective measure of environmental facilitators and barriers to participation among people with mobility limitations. They applied the Facilitators And Barriers Survey (FABS), which was developed using kinesiology elements based on five mobility impairment focus groups (Gray, *et al*, 2008, p. 434). The measure was developed using two methods and two phases; phase one qualitative and phase two quantitative. Out of 371 mobility impaired individuals who participated in both phases, the study found that 61% of those individuals contribute the built environment and natural features in the community as prominent barriers contributing to their lack of participation (Gray, *et al*, 2008, p. 438).

An additional study conducted by a sociology professor at State University College in Fredonia, New York, “sought to test the hypothesis that the degree of physical limitation, the dependency status resulting from that limitation, and social isolation, each have a negative effect upon the mental health of the impaired individual” (Ludwig & Collette, 1970, p. 92). The study included 486 respondents who were contacted in their homes and personally interviewed. “In addition to obtaining information on age, income, working status, source of income, degree of physical limitation and dependency, and degree of isolation, an instrument was designed and administered to each subject for the gross measurement of mental health symptoms” (Ludwig & Collette, 1970, p. 93).

Results of the study ultimately discovered a link between physical limitation and social isolation by finding that 92.6% of all respondents experience moderate to severe social isolation (Ludwig & Collette, 1970, p. 94). Furthermore, the study found that of the 92.6% who experience moderate to severe social isolation, 48.9% are significantly impacted with higher rates of poor mental health (Ludwig & Collette, 1970, p. 95).

Gaps and Limitations in Research

There are a number of cracks and deficiencies within previously captured research in regards to evaluating the impact of environmental barriers on people with physical disabilities. For instance, although research has extensively studied and examined the needs of persons with “all forms of disabilities”, further, more current and comprehensive studies need to be investigated, performed, and tested specifically on individuals who have a “physical” disability in order to obtain the most accurate and valid research, numbers, and evidence. In addition, accompanying research explorations would benefit from limiting the study to persons no older than the age of 65 to prevent any predetermined impressions or partialities given the effects that normal aging can have on a person’s body.

Added studies would also profit from being conducted through multiple agencies and organizations within the United States that explicitly serve the physically disabled population, without restrictions to one’s locality, and instead with emphasis on those who reside in an assortment of setting types (i.e., lower, middle, and upper class communities) in order to measure the scope of the

problem and compare the impact of environmental barriers on a much larger, grand scale.

Furthermore, preceding research lacks focusing on the social inclusion issues, or lack thereof, surrounding people with physical disabilities, and formulating a connection between societal exclusion of individuals with physical disabilities and barriers in the environment. Society's thoughts and outlook about people with physical disabilities, or any other form of handicap for that matter, can be used as a deterrent for acknowledging the vital need to provide an inclusive environment. As a result, attitudinal behaviors and aspects in society play a monumental role in permitting the exploitation and demoralization of people with physical disabilities. With that said, future studies would benefit tremendously from identifying or discovering a link between attitudinal barriers and environmental barriers as it relates to the exclusion of people with physical disabilities..

In general, in comparison with other countries around the world (including, but not limited to Canada, the United Kingdom, and Australia), the United States is incredibly limited in its research efforts regarding exploring, identifying, enhancing awareness, and reducing barriers in the environment that seclude people with physical disabilities. In order to effectively address this crucial issue, Congress, as well as other affiliated institutions, need to concentrate on developing investigative research endeavors to embark upon establishing

integrative methods and procedures to incorporate an environment that is accessible to all people despite the consequences of their abilities.

Theories Guiding Conceptualization

For the exclusive purpose of this study, four fundamental theories will be used to help guide the conceptualization of the investigation: (1) systems theory, (2) ecological perspective, (3) critical disability theory, and (4) sociocultural theory.

Systems Theory

First, “systems theory emphasizes reciprocal relationships between the elements that constitute a whole such as individuals, groups, organizations, or communities that mutually influence factors in the environment” (Hutchison, 2003, p. 2). Moreover, systems theory correspondingly “focuses on interrelationships of elements in nature and encompasses an ecosystem’s perspective by explaining that an individual is constantly creating, restructuring, and adapting to the environment while the environment is affecting them” (Ungar, 2002, p. 480).

Systems theory offers a framework for understanding the way in which people with physical disabilities respond, adapt, and cope with significant changes in their external environment, while maintaining their basic structures (Hutchison, 2003, p. 3). Systems theory also provides a model for examining the interaction between the physically disabled individual and outside entities, and concentrate on identifying particular barriers in the environment that significantly

affect the outcome of one's decision-making and tendency to isolate (Ungar, 2002, p. 481).

Ecological Perspective

Second, “the ecological perspective uses environmental concepts from biology as a metaphor with which to describe the reciprocity between persons and their environments, and puts emphasis on the goodness of fit between an individual and the places in which they live out their lives” (Sands, 2001). The ecological perspective fundamentally studies the living conditions of individuals in interaction with one another, and with their surroundings (Sands, 2001).

The ecological perspective takes into account the influence barriers in the environment have on a person with a physical disability and how those barriers shape individual behavior. A key concept of the ecological perspective is embeddedness, which provides a framework for identifying how each system functions within the operation of another system (Sands, 2001). The ecological perspective helps provide researchers with a way to understand why people with physical disabilities take or do not take certain actions in society.

Critical Disability Theory

Third, the critical disability theory places emphasis on power and privilege, seeking to emancipate and challenge oppression and domination among people with disabilities. Critical disability theory believes that it is imperative to include the voices of historically disenfranchised groups in research, and for knowledge to emerge through social interactions between researchers and participants

(Lalvani & Polvere, 2013, p. 6). Based on the stance that individuals with disabilities have been denied full access to mainstream life and have been subjected to the same forms of discrimination and segregation as members of other oppressed groups, critical disability theory contends that concepts of normality and disability are strongly influenced by those in positions of power and control (Lalvani & Polvere, 2013, p. 6). Originating from social model perspectives, critical disability theory views disability as a sociocultural construct as opposed to a biological reality (Lalvani & Polvere, 2013, p. 7).

Research based in critical disability paradigms understands the experience of disability as an interrelationship between impairment and interpretations of impairment, and focuses on the attitudinal and institutional barriers faced by individuals with disabilities (Lalvani & Polvere, 2013, p. 7). The critical disability theory “embraces a bio-psycho-social model by assessing and balancing the contributions of impairment, personal responses to impairment, and the barriers imposed by the social environment to the concept of disability” (Hosking, 2008, p. 5).

Inherently, the critical disability theory adopts a version of the social model based on principles that (1) disability is a social construct, not the inevitable consequence of impairment, (2) disability is best characterized as a complex interrelationship between impairment, individual response to impairment, and the social environment, and (3) the social disadvantage experienced by disabled people is caused by the physical, institutional,

and attitudinal environment which fails to meet the needs of people who do not match the social expectation of “normalcy”. (Hosking, 2008, p. 5).

Sociocultural Theory

Last, the sociocultural theory accentuates the interpersonal nature of psychological phenomena, assuming that human thought and development emerges through social interaction (Lalvani & Polvere, 2013, p. 8). From this perspective, the experience of disability is understood as situated beliefs, values, and attitudes that exist in a given culture at a particular time in history (Lalvani & Polvere, 2013, p. 8). As opposed to the medical model perspective, which conceptualizes and associates disability with decreased quality of life or as biologically determined, the sociocultural theory offers a lens for exploring the situated nature and meaning of disability and how the phenomenon of disability is understood as socially constructed by society (Kirschner & Martin, 2010). When framed in the sociocultural theory, disability is understood as socially constructed, supposing that the adaptation to the disability can best be understood by the context in which the experience is culturally or socially interpreted and by the meaning the disabled individual attaches to the life event (Lalvani & Polvere, 2013, p. 9).

Summary

This chapter has provided beneficial, empirical research findings and evidence to prove that barriers in the environment do have a significant impact on the physically disabled population. This chapter highlighted areas of flaws and

gaps in the aforementioned research and brought to light new ways of conducting empirical research. Additionally, this chapter specified critical theories of focus that will help conceptualize and guide further research.

CHAPTER THREE

METHODS

Introduction

This chapter addresses the research method and design that was used in order to determine the impact of environmental barriers on the seclusion of physically disabled individuals. This chapter also discusses the samples that were obtained, the type of data collection and instruments that were used in the study, specific procedures that took place, the importance of assuring human subjects know their right to confidentiality as well as any risks or benefits of the study, and the type of data analysis that was utilized to test the hypothesis of this study.

Study Design

The purpose of this study was to assess the connections between environmental barriers, the corresponding level of impact of environmental barriers, and the affect or influence of seclusion on people with physical disabilities. More specifically, this study determines if environmental or architectural barriers such as curbs, stairs, or inaccessible bathroom facilities, for example, serve as major factors that contribute to the isolation of the physically disabled population.

The research method that was employed in this study was the quantitative approach. Quantitative research methods distinctively use structured procedures

in order to gather empirical data, and are useful in obtaining statistically conclusive and descriptive findings, which have the potential to further lead to recommendations for a final course of action.

This study specifically used structured techniques exclusively designed for this research in the form of an anonymous online questionnaire. Accordingly, this study has gathered quantitative data solely from people who are physically disabled and between the ages of 18 and 65, and, through the use of surveying, measures various behaviors, attitudes, opinions, beliefs, as well as several other variables from anonymous samples.

The purpose of using the quantitative research method was to determine the relationship between environmental barriers and the seclusion of people with physical disabilities. Fundamentally, this study has located to what extent people with physical disabilities isolate themselves from the community, and how isolation is directly impacted by the result of an environment filled with structural barriers impeding the ability for people with a physical disability to access and participate in society.

Quantitative research methods are designed to elicit data using predetermined, standardized questions from a large number of respondents. Through the use of anonymous surveying, the quantitative approach used in this study was able to accurately collect relatively small amounts of information from a large number of respondents. The advantage of using the quantitative research

method was that it allowed for meaningful comparison of responses across widespread participants and study sites.

Sampling

The samples collected for this study were gathered via three highly prestigious organizations and one nationally recognized, informational website. Each participant was voluntarily chosen to anonymously take part in this study. Participants were able to access the researcher's survey link online through each organization's website as well as their populous social networking sites (i.e. Facebook and Twitter). Exclusion criteria required that all participants under the ages of 18, or over the age of 65, were not used for this study. All participants who took part in this study have been formally diagnosed with a physical disability by a licensed, qualified physician. This was achieved through a screening questionnaire, which was also voluntary. Participants were provided with an online consent form prior to reaching the actual survey. All participants were informed that their involvement in this study was voluntary and they maintained the right to terminate participation at any time during the study. All incomplete surveys were excluded from this study to avoid outlier data information.

First, participants were voluntarily enlisted from an annual event known as the DisAbility Sports Festival, a non-profit organization founded and held at California State University, San Bernardino. The purpose of this organization is to promote physical activity, raise awareness of disability sports, provide service-

learning opportunities for people to learn how to create and adapt programs for people with disabilities, and to provide social and physical support for people with all types of disabilities (DisAbility Sports Festival, 2014).

Second, participants were voluntarily recruited from Disability.gov (2014), a United States federal government website that specifically provides information on disability programs and services nationwide. This educational website is nationally known and recognized for connecting people with disabilities, their families, and caregivers to various helpful resources related, but not limited to finding a job, securing healthcare, obtaining accessible housing or services, and linking individuals with disabilities to organizations, resources, and support in their community.

Third, participants were voluntarily recruited from a community outreach organization known as PossAbilities (2014), a free, non-profit community outreach organization developed by Loma Linda University Health. Developed in 2001, PossAbilities is an all-inclusive program dedicated to providing people who were born with or have suffered a permanent physical injury a sense of community and a healthy social network. The mission of PossAbilities (2014) is to offer members new direction and hope through physical, social, and educational interaction with peers and their community; as well as supplying members with encouragement, emotional support, and a positive view from people who can relate to the shared experiences of having physical limitations. Additionally, PossAbilities (2014) is known for providing people with physical

disabilities with frequent opportunities to get active, get healthy, and make new friends through participating in social, recreational activities and support groups.

Fourth, participants were voluntarily recruited from Handicap This Productions (2014), a nationally renowned disability entertainment company that focuses on motivational gratification for all audiences in two powerful ways: through live, comedic stage shows and through customizable, inspirational public speaking exhibitions. The mission of Handicap This Productions (2014) is to help shape minds to be handicap accessible, and motivate and instill a willingness for all individuals to see new possibilities even in the bleakest situation. Handicap This Productions is well-known around the country for providing outreach services to people with disabilities throughout many distinguished corporations, colleges and universities, high schools, middle schools, and agency conferences or trainings.

Data Collection and Instruments

To explore the relationship between environmental barriers (independent variable) and the seclusion of people with physical disabilities (dependent variable), this study collected specific data, using surveying, to determine if environmental barriers are a significant cause of isolation among the physically disabled population. Participants were asked to complete a relatively short, anonymous questionnaire (Appendix A) developed exclusively by the researcher asking for the participant's age (interval), gender (nominal), ethnicity (nominal), and type of physical disability (nominal). In addition, participants were also asked

to choose the environmental barrier(s) that affects them and then rate the (interval) level of impact the following environmental barriers have on their life: lack of or inaccessible handicapped parking spaces, stairs and/or curbs, narrow doorways, ramps and/or inclines, uneven ground and/or sidewalks, public bathrooms, public benches, signage, braille, or other unmentioned barriers.

Next, participants were asked to identify how often (ordinal) they navigate outside their home (rarely, a few times a month, once a week, a few times a week, or everyday). Correspondingly, participants were asked to distinguish for what reasons they leave their home (to go to work or school, to meet bare necessities such as doctor appointments, for social activities such as shopping or going to the movies, all of the above, or none of the above).

In addition, participants completed a 3-point isolation scale (ordinal) designed specifically for this project to address how often the participant feels isolated as contributed to the environmental barriers that impact the participant's level of functioning. Participants were then asked to rate (interval) their level of isolation as either (0) not at all, (1) sometimes, (2) very often, or (3) all the time.

Last, a 3-point Likert scale was used to rate (interval) the overall impact environmental barriers have on the participant's life and ability to participate in the community and/or society, (0 = not at all, 1 = sometimes, 2 = often, 3 = every day).

Procedures

The collection of data took place between July 2013 and October 2013, and was conducted by an MSW student from California State University, San Bernardino. As previously noted, surveys were administered online in connection with three prominent organizations and one legendary informational website, and targeted all registrants who have a diagnosed physical disability and are between the ages of 18 and 65. All participants were informed their participation would be entirely anonymous and that all information would be kept confidential. Before completing the survey, each participant was prompted to electronically sign the informed consent form (Appendix B), which indicated their understanding of the research to be conducted, and their willingness to participate in the study. After the participant had completed the online survey, they electronically received a debriefing form (Appendix C), which thanked them for participating in the study, and advised them as to where they may locate the research results once the study was concluded.

Protection of Human Subjects

Each participant was provided with an informed consent form that explained their right to confidentiality, the purpose and description of the study, and the benefits and/or risks of participating in the study. Participants were informed that their participation is entirely voluntary and refusal or withdrawal from completing the survey would not have any consequences or repercussions.

Participants were also advised that the researcher is an MSW graduate student striving to advocate and empower those who are physically disabled.

The informed consent included a statement indicating the approximate length of time for completing the survey (5-10 minutes), explained in-depth the foreseen risks and benefits of the study, and further emphasized that the benefits of this study would assist in promoting change and expose the challenging realities people with physical disabilities face on a daily basis.

Data Analysis

The quantitative survey used in this study attempts to measure the impact environmental factors have on isolating people with physical disabilities from participating in the community or society. Quantitative methods are fairly inflexible, seeking to ask all participants identical questions in the same order, and response categories are either closed-ended or fixed. In order to complete the data analysis and find any correlations between environmental barriers and seclusion of people with physical disabilities, Statistical Packages for the Social Science software was used and is designed specifically for research studies such as this.

The responses to questions were analyzed by determining the corresponding frequency, means, and percentage. Likert-scale responses were categorized and coded for quantification purposes, and were analyzed based on frequency and intensity of responses. Percentages were also used to determine the magnitude of the responses to the questionnaire. In addition, specific

bivariate and descriptive correlation tests were conducted to assess the relationships and linkage among the variables.

Summary

This chapter identified how data was gathered to analyze the correlation between environmental barriers and seclusion of people with physical disabilities. Information about collecting data, obtaining sample subjects, creating instruments to measure responses, and the analysis of data were discussed to produce the most accurate material for the study. This chapter further addressed the protection of all participants through the use of an informed consent, disclosure of risks and benefits, and a detailed description of the purpose of the study.

CHAPTER FOUR

RESULTS

Introduction

This chapter methodically presents and discusses the quantitative results of the data analysis. The reported data was systematically gathered and then processed in response to the hypotheses posed in Chapter One. Throughout this chapter, three predominant objectives were accomplished, which drove the collection of the data and the subsequent data analysis. Those goals were to develop a base of knowledge and awareness of the innumerable environmental barriers people with physical disabilities face on a daily basis, determine the isolative impact those environmental barriers cause, and identify if there is an effort being made to ensure people with physical disabilities are able to access buildings and environments.

Presentation of the Findings

The initial sample that was studied consisted of 437 participants. However, 68 cases were excluded from the study due to not meeting the age requirements of being between the range of 18 to 65. An additional six cases were excluded from the study for declining to participate by selecting to not agree the informed consent. Therefore, the remaining sample that was studied is comprised of a total of 363 participants.

Descriptive Frequencies

Within this sample, each of the 363 participants (100%) indicated they have a physical disability that has been diagnosed by a licensed physician. Shown in Figure 1, the mean age of the sample was 40.73, with a standard deviation of 13.527. The study contained a relatively equal distribution of sexes (Table 1), consisting of 214 females and 149 males, equating to a 59% to 41% ratio between the genders.

Figure 1. Age

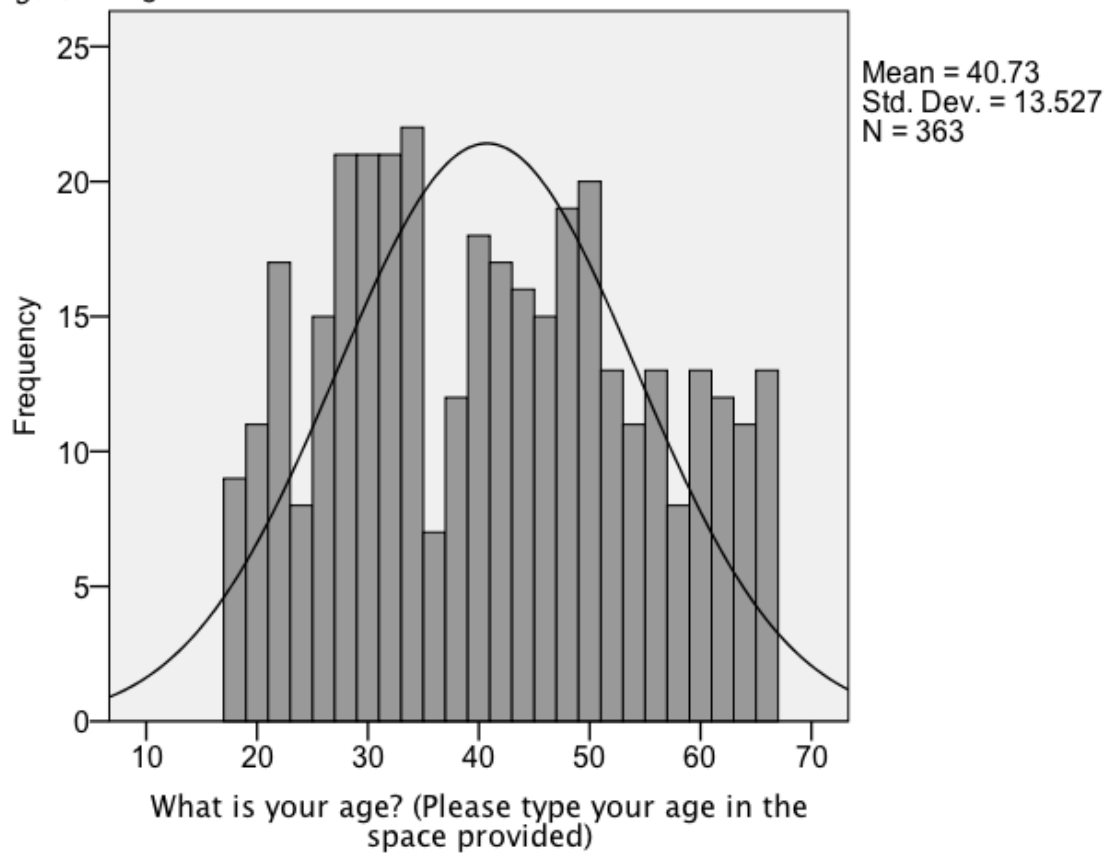


Table 1. *Gender*

	Participants (N=363)	Valid Percent
Female	214	59.0
Male	149	41.0
Total	363	100.0

Participants were subsequently asked to identify their ethnicity (Table 2). Two hundred and forty-one participants (66.4%) indicated they were of Caucasian ethnicity. Thirty-nine participants (10.7%) specified they were of Asian ethnicity. Twenty-three participants (6.3%) identified as being African American. Twenty participants (5.5%) indicated they were Hispanic or Latino. Twenty-three participants (6.3%) preferred not to answer or identify their ethnicity. Seventeen participants (4.7%) acknowledged being of another ethnicity, with several demonstrating in writing that they identified with being of more than one ethnicity or of an ethnicity that was not listed.

Table 2. *Ethnicity*

	Participants (N=363)	Valid Percent
Other	17	4.7
Caucasian	241	66.4
African American	23	6.3
Hispanic or Latino	20	5.5
Asian	39	10.7
Prefer not to answer	23	6.3
Total	363	100.0

Participants were further asked to identify at what level they have use of their arms, legs, eyes, and ears by reporting if they have either full use, partial use, or no use at all of any of the listed body part(s) (Table 3). Two hundred and nine participants (57.6%) indicated they have full use of their arms. One hundred forty-two participants (39.1%) stated they have partial use of their arms, and 12 participants (3.3%) reported they have no use of their arms.

Table 3. *Use of Arms.*

	Participants (N=363)	Valid Percent
Full use	209	57.6
Partial use	142	39.1
No use	12	3.3
Total	363	100.0

Represented in Table 4, sixty-one participants (16.8%) indicated they have full use of their legs, whereas 205 participants (56.5%) identified with having partial use of their legs. Ninety-seven participants (26.7%) reported they have no use of their legs.

Table 4. *Use of Legs.*

	Participants (N=363)	Valid Percent
Full use	61	16.8
Partial use	205	56.5
No use	97	26.7
Total	363	100.0

Displayed in Table 5, two hundred and eighty-eight participants (79.3%) indicated they have full use of their eyes, while 70 participants (19.3%) stated having partial use of their eyes. Five participants (1.4%) reported having no use of their eyes.

Table 5. Use of Eyes.

	Participants (N=363)	Valid Percent
Full use	288	79.3
Partial use	70	19.3
No use	5	1.4
Total	363	100.0

Symbolized in Table 6, three hundred and ten participants (85.4%) identified with having full use of their ears. Forty-seven participants (12.9%) indicated with having partial use of their ears, and 6 participants (1.7%) reported having no use of their ears.

Table 6. Use of Ears.

	Participants (N=363)	Valid Percent
Full use	310	85.4
Partial use	47	12.9
No use	6	1.7
Total	363	100.0

Participants were additionally asked to identify what type of assistive device(s) they use (Table 7). Two hundred and six participants (56.7%) identified with using multiple assistive devices. Of those 206 participants who reported using multiple assistive devices, 172 participants (47.4%) reported using a wheelchair. One hundred and nine participants (30%) indicated they use a mobility scooter. One hundred and three participants (28.4%) stated they use a walker. Ninety-seven participants (26.7%) reported they wear leg braces. Seventy-eight participants (21.5%) indicated they use a cane. Seventy-two participants (19.8%) stated they use visual aids. Thirty-three participants (9.1%) reported using hearing aids.

Table 7. Multiple Assistive Devices Used

	Participants (N=206)	Valid Percent
Walker	103	28.4
Braces	97	26.7
Cane	78	21.5
Wheelchair	172	47.4
Mobility Scooter	109	30.0
Hearing Aids	33	9.1
Visual Aids	72	19.8

The subsequent 157 participants specified usage of either a single assistive device or no usage of an assistive device at all (Table 8). Of the 157 participants who stated only using one assistive device, eighty-eight participants

(24.2%) indicated they use a wheelchair. Seventeen participants (4.7%) stated they use and wear leg braces. Fifteen participants (4.1%) identified with using a mobility scooter. Twelve participants (3.3%) indicated they use a cane. Ten participants (2.8%) stated they use a walker. Six participants (1.7%) identified with using visual aids. Five participants (1.4%) indicated they use hearing aids. Four participants (1.1%) acknowledged not using any assistive device by stating the question was not applicable to them.

Table 8. Use of a Single Assistive Device

	Participants (N=363)	Valid Percent
Walker	10	2.8
Braces	17	4.7
Cane	12	3.3
Wheelchair	88	24.2
Mobility Scooter	15	4.1
Hearing Aids	5	1.4
Visual Aids	6	1.7
Not Applicable	4	1.1
Multiple Assistive Devices	206	56.7
Total	363	100.0

Next, participants were asked to identify whether or not the following barriers are troublesome to them (Table 9, and also see Table 17 for more a specific exploration). Two hundred eighty-three participants (78%) indicated stairs and curbs are troubling to them. Two hundred thirty-two participants

identified uneven ground and/or sidewalks to be troublesome. One hundred ninety-two participants (52.9%) reported finding public bathrooms to be troublesome. One hundred sixty-four participants (45.2%) stated narrow doorways are troubling to them. One hundred forty-nine participants (41%) reported handicapped parking spaces are troublesome. One hundred forty participants (38.6%) reported finding ramps and inclines to be troubling to them. Seventy-seven participants indicated public benches are troublesome. Forty-two participants (11.6%) reported having trouble with signage. Twenty participants (5.5%) stated they have trouble with braille. Twenty-nine participants (8%) identified with having no trouble with any of the above mentioned barriers, and 45 participants (12.4%) acknowledged other troubling barriers, which participants revealed in writing such as: public transportation, inaccessible elevators, heavy doors, small or non-functional elevators, medical exam tables, and the attitudes of others.

Table 9. *Troubling Barriers*

	Participants (N=363)	Valid Percent
Handicapped parking spaces	149	41.0
Stairs or curbs	283	78.0
Narrow doorways	164	45.2
Ramps and inclines	140	38.6
Uneven ground and/or sidewalks	232	63.9
Public bathrooms	192	52.9
Public benches	77	21.2
Signage	42	11.6
Braille	20	5.5
None of the above	29	8.0
Other	45	12.4

Later, participants were asked to identify if the above mentioned environmental barriers they listed as troublesome to them impact their life so much that it makes them afraid or hesitant to leave their home (Table 10). One hundred and four participants (28.7%) answered yes, indicating that the barriers they reported cause them to feel afraid or hesitant to leave their home. One hundred fifty-seven participants (43.3%) stated they sometimes feel afraid or hesitant to leave their home due to environmental barriers. One hundred and two participants (28.1%) specified that the barriers they reported do not cause them to feel afraid or hesitant to leave their home.

Table 10. *Level of Fear or Hesitancy to Leave Home Due to Environmental Barriers.*

	Participants (N=363)	Valid Percent
Yes	104	28.7
Sometimes	157	43.3
No	102	28.1
Total	363	100.0

Afterward, participants were asked to identify how often they leave their home (Table 11). One hundred thirty-five participants (37.2%) reported they leave their home every day. One hundred fifty-two participants (41.9%) stated they leave their home a few times a week. Thirty-two participants (8.8%) indicated they leave their home once a week. Twenty-two participants (6.1%) reported leaving their home a few times a month, and twenty-two participants (6.1%) stated they rarely leave their home.

Table 11. *Frequency One Leaves Home.*

	Participants (N=363)	Valid Percent
Every day	135	37.2
A few times a week	152	41.9
Once a week	32	8.8
A few times a month	22	6.1
Rarely	22	6.1
Total	363	100.0

Participants were further asked to identify how often they find it a challenge to leave their home (Table 12). Fifty-six participants (15.4%) indicated they never find it a challenge to leave their home, whereas 202 participants (55.6%) reported sometimes finding it a challenge to leave their home. One hundred and five participants (28.9%) stated they often find it a challenge to leave their home.

Table 12. Frequency One Finds it a Challenge to Leave Home.

	Participants (N=363)	Valid Percent
Never	56	15.4
Sometimes	202	55.6
Often	105	28.9
Total	363	100.0

Moreover, participants were asked to identify for what purpose they leave their home (Table 13). Sixty-seven participants (18.5%) indicated they leave their home to go to work or school. Ninety-two participants (25.3%) reported they leave their home to meet bare necessities such as doctor appointments. Fifty-two participants (14.3%) reported leaving their home to engage in social activities such as shopping or going to the movies. One hundred thirty-nine participants (38.3%) reported leaving their home to do all of the above, whereas 13 participants (3.6%) indicated they do not leave their home.

Table 13. *For What Purpose One Leaves Home.*

	Participants (N=363)	Valid Percent
To go to work or school	67	18.5
To meet bare necessities such as doctor appointments	92	25.3
For social activities such as shopping or going to the movies	52	14.3
All of the above	139	38.2
I don't leave the house	13	3.6
Total	363	100.0

From there, participants were asked to acknowledge if they ever feel excluded or isolated from society (Table 14). Ninety-two participants (25.3%) reported yes, stating they feel excluded or isolated from society all the time. Two hundred twenty participants (60.6%) stated they sometimes feel excluded or isolated from society. Fifty-one participants (14%) reported they do not feel excluded or isolated from society.

Table 14. *Level of Feeling Excluded or Isolated from Society.*

	Participants (N=363)	Valid Percent
Yes, all the time	92	25.3
Sometimes	220	60.6
No	51	14.0
Total	363	100.0

If participants answered “yes” or “sometimes” to feeling excluded or isolated from society, participants were then asked to identify if they associate feeling isolated or excluded to the environmental barriers they face (Table 15). Ninety-one participants (52.6%) reported yes. One hundred and nine participants (30%) stated sometimes. Twenty-one participants (5.8%) indicated no. Forty-two participants (11.6%) specified the question was not applicable to them.

Table 15. *Rating Feelings of Exclusion or Isolation as Contributed by Environmental Barriers.*

	Participants (N=363)	Valid Percent
Yes	191	52.6
Sometimes	109	30.0
No	21	5.8
N/A	42	11.6
Total	363	100.0

Last, participants were asked to recognize and report if they feel there is an effort being made to ensure people with physical disabilities are able to

access buildings and environments (Table 16). One hundred ninety-one participants (52.6%) said yes, whereas 172 participants (47.4%) said no.

Table 16. *Rating the Effort Being Made to Ensure People with Physical Disabilities are Able to Access Buildings and Environments.*

	Participants (N=363)	Valid Percent
Yes	191	52.6
No	172	47.4
Total	363	100.0

Descriptive Comparison of Variables

To correlate the impact of environmental barriers with whether or not the participant attributes feeling isolated or excluded from society due to the environmental barriers they face, each identified barrier was individually examined and compared to the participant's response to feeling isolated (Table 17). For instance, 82 participants who acknowledged having trouble using or accessing narrow doorways reported "yes" to attributing feeling isolated or excluded from society due to that barrier. Fifty-five participants who reported having trouble using or accessing narrow doorways acknowledged "sometimes" attributing that barrier to feeling isolated or excluded from society. Eleven participants who reported having trouble using or accessing narrow doorways stated they do not attribute this barrier with feeling isolated or excluded from society. Sixteen participants stated having trouble using or accessing narrow

doorways did not apply to them.

Eighty-three participants who identified with having trouble using or accessing ramps and inclines reported “yes” to attributing this barrier with feeling isolated or excluded from society. Thirty-seven participants who reported having trouble using or accessing ramps and inclines stated they “sometimes” attribute this barrier to feeling isolated or excluded from society. Eight participants who acknowledged having trouble using or accessing ramps and inclines specified they did not attribute this barrier to feeling isolated or excluded from society. Twelve participants stated having trouble using or accessing ramps and inclines did not apply to them.

One hundred and fifteen participants who reported having trouble using or accessing uneven ground and/or sidewalks reported “yes” to attributing this barrier with feeling isolated or excluded from society. Seventy-seven participants who identified having trouble using or accessing uneven ground and/or sidewalks stated they “sometimes” attribute this barrier with feeling isolated or excluded from society. Fifteen participants who acknowledged having trouble using or accessing uneven ground and/or sidewalks reported not attributing this barrier to feeling isolated or excluded from society. Twenty-five participants specified having trouble using or accessing uneven ground and/or sidewalks did not apply to them.

One hundred and eleven participants who identified with having trouble using or accessing public bathrooms reported “yes” to attributing this barrier with

feeling isolated or excluded from society. Fifty-five participants who reported having trouble using or accessing public bathrooms reported “sometimes” attributing this barrier with feeling isolated or excluded from society. Nine participants who specified having trouble using or accessing public bathrooms acknowledged not attributing this barrier with feeling isolated or excluded from society. Seventeen participants reported having trouble using or accessing public bathrooms did not apply to them.

Forty-five participants who stated having trouble using or accessing public benches reported “yes” to attributing this barrier with feeling isolated or excluded from society. Twenty-five participants who identified with having trouble using or accessing public benches stated they “sometimes” attribute this barrier with feeling isolated or excluded from society. One participant who reported having trouble using or accessing public benches acknowledged not attributing this barrier with feeling isolated or excluded from society. Six participants specified having trouble using or accessing public benches did not apply to them.

Twenty-five participants who identified having trouble using or accessing signage reported “yes” to attributing this barrier with feeling isolated or excluded from society. Eleven participants who acknowledged having trouble using or accessing signage specified they “sometimes” attribute this barrier with feeling isolated or excluded from society. One participants who reported having trouble using or accessing signage stated they did not attribute this barrier to feeling isolated or excluded from society. Five participants reported having trouble using

or accessing signage did not apply to them.

Ten participants who identified having trouble using or accessing braille reported “yes” to attributing this barrier with feeling isolated or excluded from society. Seven participants who acknowledged having trouble using or accessing braille reported “sometimes” attributing this barrier to feeling isolated or excluded from society. One participant who reported having trouble using or accessing braille stated they do not attribute this barrier with feeling isolated or excluded from society. Two participants reported having trouble using or accessing braille did not apply to them.

Fifteen participants reported they do not have trouble using or accessing any of the above mentioned barriers; however, those 15 participants reported “yes” to attributing feeling isolated or excluded from society to environmental barriers they face, and 6 participants reported “sometimes” attributing feeling isolated or excluded from society to the environmental barriers they face. Two participants specified they do not attribute any barriers with feeling isolated or excluded from society. Six participants acknowledged none of the above environmental barriers applied to them.

One hundred and seventy-nine participants who identified having trouble using or accessing other unlisted barriers (barriers that were demonstrated in writing to include: public transportation, inaccessible elevators, heavy doors, small or non-functional elevators, medical exam tables, and the attitudes of others) reported “yes” to attributing those other barriers to feeling isolated or

excluded from society. One hundred and two participants who acknowledged having trouble using or accessing other barriers specified “sometimes” attributing those other barriers with feeling isolated or excluded from society. Twenty-one participants who reported having trouble using or accessing other barriers acknowledged that they do not attribute those other barriers with feeling isolated or excluded from society. Thirty-nine participants reported the question regarding trouble with accessing other barriers did not apply to them.

Table 17. Correlating Impact of Barriers.

Do you have trouble using or accessing the following?	Do you attribute feeling isolated or excluded to the environmental barriers you face?				Total
	Yes	Sometimes	No	N/A	
Narrow doorways	82	55	11	16	164
Ramps and inclines	83	37	8	12	140
Uneven ground and/or sidewalks	115	77	15	25	232
Public bathrooms	111	55	9	17	192
Public benches	45	25	1	6	77
Signage	25	11	1	5	42
Braille	10	7	1	2	20
None of the above	15	6	2	6	29
Other	179	102	21	39	341

In order to examine and measure the impact of isolation (Figure 2.), the rate of responses for how often one finds it a challenge to leave their home was compared to the number of participants who associated and reported being fearful or hesitant to leave their home due to environmental barriers.

Seventy-one participants (19.56%) who indicated they often find it a challenge to leave their home stated, “yes” to feeling fearful or hesitant to leave their home due to environmental. Thirty participants (8.26%) who indicated they often find it a challenge to leave their home reported they “sometimes” feel fearful or hesitant to leave their home due to environmental barriers; and 4 participants (1.10%) who indicated they often find it a challenge to leave their home reported not being fearful or hesitant to leave their home due to environmental barriers.

Thirty participants (8.26%) who reported “sometimes” finding it a challenge to leave their home specified, “yes” to being fearful or hesitant to leave their home due to environmental barriers. One hundred and eighteen participants (32.51%) who reported sometimes finding it a challenge to leave their home stated they “sometimes” feel fearful or hesitant to leave their home due to environmental barriers. Fifty-four participants (14.88%) who indicated they sometimes find it a challenge to leave their home reported not being fearful or hesitant to leave their home due to environmental barriers.

Three participants (0.83%) who identified with never finding it a challenge to leave their home reported “yes” to feeling fearful or hesitant to leave their home due to environmental barriers. Nine participants (2.48%) who stated they

never find it a challenge to leave their home identified with “sometimes” being fearful or hesitant to leave their home due to environmental barriers. Forty-four participants (12.12%) who indicated they never find it a challenge to leave their home reported not feeling fearful or hesitant to leave their home due to environmental barriers.

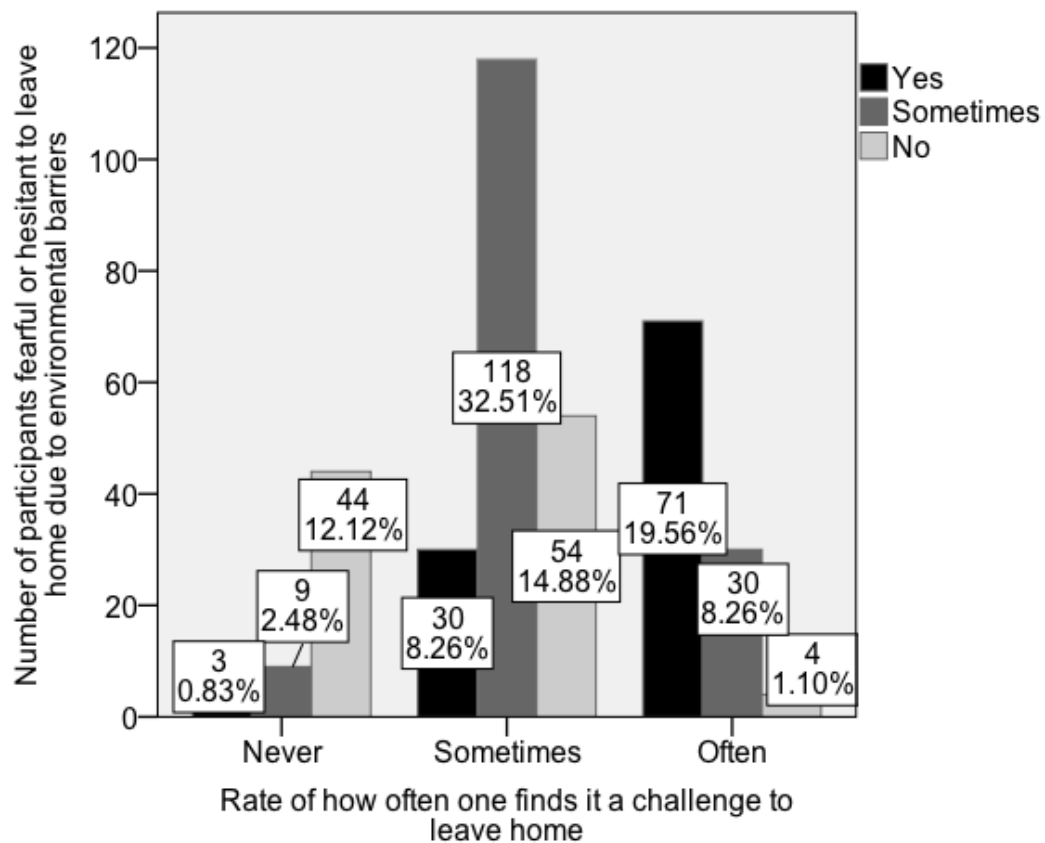


Figure 2. Impact of Isolation

Research distinguishes a significant correlation between participant feelings of exclusion or isolation from society with data detecting whether the participant attributes feeling isolated or excluded from society to the environmental barriers they face (Table 18.). Also illustrated in Figure 3., sixty-eight participants who reported always feeling excluded or isolated from society stated “yes” to attributing their isolation or exclusion to the environmental barriers they face. Eighteen participants who reported always feeling excluded or isolated from society acknowledged “sometimes” attributing feeling isolated or exclusion to the environmental barriers they face. Three participants who reported always feeling isolated or excluded from society identified as not attributing their isolation or exclusion to the environmental barriers they face. Three participants specified the question was not applicable to them.

One hundred and seventeen participants who reported “sometimes” feeling isolated or excluded from society stated “yes” to attributing their feelings of isolation or exclusion to the environmental barriers they face. Eighty-eight participants who reported “sometimes” feeling isolated or excluded from society stated they “sometimes” attribute their feelings of isolation or exclusion to the environmental barriers they face. Fifteen participants who reported “sometimes” feeling isolated or excluded from society stated they do not attribute feeling isolated or excluded to the environmental barriers they face.

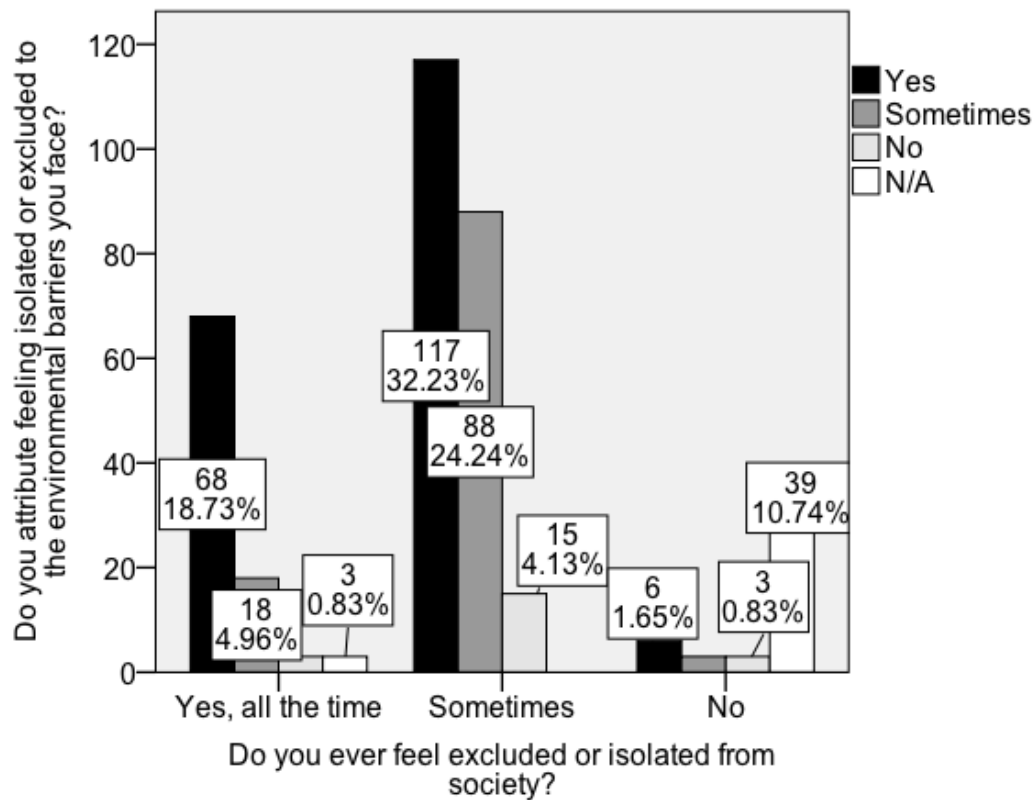


Figure 3. Comparing Isolation and Attribution to Environmental Barriers

Six participants who reported not feeling excluded or isolated from society stated “yes” to attributing feeling isolated or excluded to the environmental barriers they face. Three participants who reported not feeling excluded or isolated from society acknowledged “sometimes” attributing feeling isolated or excluded to the environmental barriers they face. Three participants claimed to not feel isolated or excluded from society or attribute feeling isolated or excluded

to the environmental barriers they face. The additional 39 participants recognized and identified the question was not applicable to them.

Table 18. Comparing Isolation and Attribution to Environmental Barriers.

		Do you attribute feeling isolated or excluded to the environmental barriers you face?				Total
		Yes	Sometimes	No	N/A	
Do you ever feel excluded or isolated from society?	Yes, all the time	68	18	3	3	92
	Sometimes	117	88	15	0	220
	No	6	3	3	39	51
	Total	191	109	21	42	363

To conclude, Figure 4 discerns whether participants who attribute feeling isolated or excluded from society due to the environmental barriers they face identify or feel there is an effort being made to ensure people with physical disabilities are able to access buildings and environments. Eighty participants (22.04%) who reported they attribute feeling isolated or excluded from society due to the environmental barriers they face stated they feel there is an effort being made to ensure people with physical disabilities are able to access buildings and environments. Contrary, 111 participants (30.58%) who reported they attribute feeling isolated or excluded from society due to the environmental barriers they face indicated they do not feel there is an effort being made to

ensure people with physical disabilities are able to access buildings and environments.

Sixty-three participants (17.36%) who reported “sometimes” attributing feeling isolated or excluded from society due to the environmental barriers they face indicated they feel there is an effort being made to ensure people with physical disabilities are able to access buildings and environments. Forty-six participants (12.67%) who reported “sometimes” attributing feeling isolated or excluded from society due to the environmental barriers they face specified they do not feel there is an effort being made to ensure people with physical disabilities are able to access buildings and environments.

Twelve participants (3.31%) who indicated they do not attribute feeling isolated or excluded from society to the environmental barriers they face reported they feel there is an effort being made to ensure people with physical disabilities are able to access buildings and environments. However, 9 participants (2.48%) who indicated they do not attribute feeling isolated or excluded from society to the environmental barriers they face indicated they do not feel there is an effort being made to ensure people with physical disabilities are able to access buildings and environments.

Finally, 36 participants (9.92%) who acknowledged feeling isolated or excluded from society due to the environmental barriers they face does not apply to them indicated they do feel there is an effort being made to ensure people with physical disabilities are able to access buildings and environments. Yet, 6

participants (1.65%) who reported feeling isolated or excluded from society due to the environmental barriers they face does not apply to them specified they do not feel there is an effort being made to ensure people with physical disabilities are able to access buildings and environments.

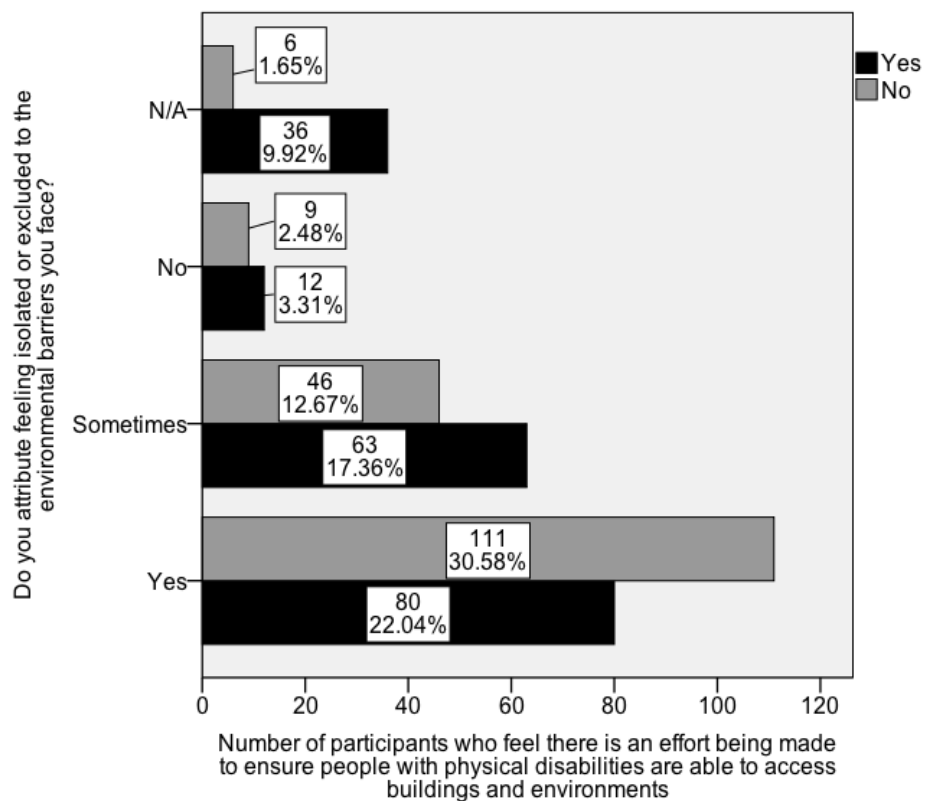


Figure 4. Linking Isolation Due to Environmental Barriers and Efforts to Ensure Access

Summary

The conduct of this chapter entailed a comprehensive exploration of the cause-and-effect relationship between multiple variables used to explain the positive correlations of responses of data. The findings that were systematically and scrupulously presented in this chapter established a widespread need for increased understanding of the challenges faced by people with physical disabilities, demonstrated the potential for creating perpetual changes by enhancing the objectives driven by current ADA guidelines, and finally, accentuated the need for improvement in designing an inclusive environment universally adaptable to all people regardless of one's abilities or lack thereof.

CHAPTER FIVE

DISCUSSION

Introduction

This chapter carefully and critically analyzes, dissects, and examines the data obtained through this study. Furthermore, this chapter explains how the results establish unexpected findings and correspondingly supports the hypotheses. This chapter also discusses the researcher's interpretations and opinions of the findings, provides details on the implication of the results, identifies potential weaknesses, determines how the results are acceptable and consistent with previously published knowledge on the topic, and suggests ideas and thoughts for building future research.

Discussion

Out of 363 participants, 59% were female and 41% were male, with the majority of participants (66.4%) reported being of Caucasian ethnicity. As previously mentioned, the data for this study were collected to help identify which environmental barriers impact people with various physical disabilities and determine if those barriers serve as isolating factors secluding people with physical disabilities from being able to access, function, and interact with society.

Examining the Use of Body Parts

When comparing the data, evidence reveals that the majority of participants have difficulty using their legs as evidenced by 83.27% of

participants reporting having partial use or no use of their legs. In addition, 42.4% of participants described having partial use or no use of their arms. Individuals with physical disabilities relating to their eyes and ears were discovered to be less significant elements as substantiated by only 20.7% of participants reporting having partial use or no use of their eyes, and 14.6% of participants reporting having partial use or no use of their ears. The low reportage of participants who have difficulty with their eyes could be accounted for the fact that participants would have either needed their eyes to complete the survey for this study or be equipped with relatively expensive technology to have the survey read aloud to them and record their responses via voice recognition. Furthermore, the low reportage of participants who have a hearing difficulty could be explained by taking into consideration that those who are hard of hearing or deaf may not consider their impairment to be categorized as a physical disability. For instance, many people with hearing difficulties are able to read lips and use and feel the vibration of sound waves to communicate with others. Having said that, individuals who are hearing impaired may not classify themselves as physically disabled because they are still able to communicate and access the same environments as those who are not physically disabled.

Nevertheless, if a person is unable to hear or see, it is possible they may be provided with interpreters and/or people who drive them places, help them navigate, or help them to communicate. However, individuals who have trouble with their legs and/or arms may not have those types of resources to help them

access buildings and environments. Consequently, these justifications could be responsible for the sizeable number of responses from individuals who have little to no use of their legs and/or arms.

Since data validates participant's lack or complete inability to use their legs as being the most prevalent problem among body part usage, this might also be associated with the increased level of difficulty those individuals have with accessing the environment. For instance, if a person has trouble using their legs, traveling may become extremely difficult, as well as accessing locations that are unequipped to accommodate someone who has significant leg impairments (i.e., stairs or curbs, steep ramps or inclines, etc.). The same rationalization can be applied to participants who reported having little or no use of their arms.

Similar to those who have difficulty with their legs, individuals who have difficulty with their arms may be less inclined to participate or seek out activities or services because they may not be able to open doors, pick up items, or drive a vehicle, just to name a few. Moreover, people who have little or no use of their arms, as well as individuals who are visually impaired, may be reluctant to seek services due to discovering it is nearly impossible to fill out their own documentation. Rather than relying on someone to fill out their documentation for them and expose their most private information, they may end up choosing to decline accessing services that are essential to their well-being.

Examining the Predominant Use of Assistive Devices

Single Assistive Device. Out of the data reported for using a single assistive device 42.2% of participants reported using a single assistive device, whereas 56.7% of participants reported using multiple assistive devices. From the data gathered for use of a single assistive device, over half of the participants reported using a wheelchair, while only 39 participants reported single usage of a walker, cane, and braces. These numbers may simply be a reflection of legs being identified as the most cumbersome body part to use. Subsequently, less than 5% of participants reported using hearing or visual aids, which, as previously mentioned, might account for or be a representation of individuals with hearing difficulties not identifying as being physically disabled, and the inability for people with sight difficulties to access the survey to this study.

The relatively desolate breakdown of individuals who use only a single assistive device is comparatively low when paralleled with the number of participants who use multiple assistive devices. This could be credited to the realization that individuals with physical disabilities generally require an assortment of assistive devices to help them with a variety of diverse tasks. For example, an individual who relies on using a wheelchair may also use a mobility (power) scooter depending on the terrain or setting they are in and the level or degree of which assistive device will allow them to have the most freedom and ease of access to buildings and environments. Additionally, for those individuals who are not confined to a wheelchair and have partial use of their legs, they may

choose to alternate between either using a walker, cane, or wheelchair, again, contingent upon the situation. This same explanation can also pertain to individuals who are visually or hearing impaired who rely upon using multiple assistive devices to help them dependent upon the task or errand they are endeavoring to undertake.

Multiple Assistive Devices. Out of the data from the remaining 206 participants (56.7%) who reported using multiple assistive devices, a combined 281 reports of using a wheelchair and/or mobility scooter, which signifies wheelchairs and mobility scooters as the most widely used of the available assistive devices to choose from for this study. Comparably, 278 participants reported using a combination of a walker, braces, and cane, with 103 participants exclusively specifying usage of a walker. Again, these numbers coincide with the markedly immense reportage of participants who have little or no use of their legs.

The rather excessive breakdown of individuals who use multiple assistive devices is comparatively high when paralleled with the number of participants who use only a single assistive device. As previously mentioned, this could be attributed to the fact that many individuals with physical disabilities require an assortment of assistive devices to help them with a variety of diverse tasks depending upon the anticipated situation or terrain.

Examining the Impact of Environmental Barriers

After examining each of the barriers available on the survey for this study, the four primary problematic barriers that were reported include: uneven ground and/or sidewalks (192 participants), public bathrooms (166 participants), narrow doorways (137 participants), and ramps and inclines (120 participants). The reasoning behind these four barriers being the most distressing to access is very well likely to be correlated with the majority of participants having little or no use of their legs, in addition to over half of the participants reporting being reliant on using a wheelchair or mobility scooter. Coincidentally, uneven ground and sidewalks, public bathrooms, narrow doorways, and ramps and inclines are all common barriers wheelchair or mobility scooter users typically have problems with navigating.

According to the data, a total of 79.1% of participants reported that they leave their home daily to a few times a week. Sadly, 3.6% of participants reported they do not leave their home at all. Based on the environmental barriers these participants listed, 71.9% of participants reported having some level of fear or hesitancy to leave their home. More specifically, 55.6% of participants reported it is sometimes a challenge to leave their home, while 28.9% of participants reported they often find it a challenge to leave their home. Collectively, a total of 84.6% of participants expressed finding it to be considerably challenging to leave their home.

Of all the participants who reported leaving their home and acknowledged finding it a challenge to leave their home, 18.5% of participants stated they leave home solely to attend to work or school. An additional 25.3% of participants reported only leaving home to manage bare necessities such as doctor appointments. A mere 14.3% of participants stated they leave home to engage in social activities such as shopping or going to the movies. A total of 38.2% of participants reported leaving their home for all of the above mentioned activities.

Based on the information gathered from the purpose participants leave their home, an enormous 86% of participants reported feeling a significant level of exclusion or isolation from society. Consequently, a massive 82.6% of participants rated these feelings of exclusion and isolation from society as being contributed by the environmental barriers they face. Dissimilarly, only 3.4% of the individuals who reported feeling excluded or isolated from society did not link their feelings of exclusion or isolation to the environmental barriers they face.

With that said, this research study has ultimately recognized that a grand total of 96.6% of participants identified environmental barriers as being the principal cause of their isolation or exclusion from society. To further conclude, nearly half of the participants in this study (47.4%) did not identify an effort being made to ensure buildings and environments are accessible or accommodating for those struggling with physical disabilities.

Although the remaining 52.6% of participants indicated they do feel there is an effort being made to ensure people with physical disabilities are able to

access buildings and environments, the question can be raised as to what these individuals actually consider to be an “effort”. For instance, participants who feel there is an effort being made, may also agree despite the effort, many buildings and environments are not fully accommodating for allowing access for all persons with various types of physical disabilities, and may conclude that there needs to be prompt changes.

Limitations

After analyzing and evaluating the data, several limitations to this study became apparent. First, since this study was unwittingly taken to a national level, it would have been highly beneficial to include a question on the survey that asks the participant to identify which state or region they live. Ascertaining the location in which the participant resides could make a huge impact on the participant’s response as to whether they feel there is an effort being made to ensure people with physical disabilities are able to access buildings and environments. Likewise, distinguishing a participant’s location may additionally influence how often they find it a challenge to leave their home, as well as alter the frequency or distinction of identifiable barriers they have trouble accessing. Not only did this research study did not take into consideration or ask for specific demographic information, this research also did not account for the distinct possibility that different states may be more accommodating to the needs of people with physical disabilities than others.

Second, as formerly noted, although slightly over half of the participants reported they feel there has been an effort made to ensure people with physical disabilities are able to access buildings and environments, future testing would benefit from gathering more specific information regarding what each individual considers to be an “effort”. Furthermore, it might be advantageous to add supplemental survey questions concerning this “effort” by using percentages and/or ranges, which allow for participants to expand their answers and to rank and define how much effort they feel there is being made verses merely addressing “yes” or “no” to if they feel there is an effort being made to ensure people with physical disabilities are able to access buildings and environments.

Third, it could have been valuable to have the participants specifically identify what type of physical disability they were diagnosed with in order to establish a baseline for understanding the rationale behind the large number of participants who use a wheelchair or other assistive device and are either unable to use their legs, arms, eyes, or ears.

Fourth, this research study could have profited from establishing the participant’s employment status. By identifying whether or not a participant is employed, this may inadvertently change the degree or outcome for how often an individual leaves their home and/or how often an individual finds it a challenge to leave their home. For example, if a participant reports leaving their home daily and correspondingly reports leaving their home daily to attend work, this could produce altered results for the participant’s response to feeling fearful or hesitant

to leave their home due to environmental barriers. The rationalization for this is accounted for the likelihood that the participant probably would not have chosen to be employed someplace that did not provide necessary accommodations for them. Therefore, if a participant identifies with leaving the house daily to tend to work, they are likely not going to respond to being fearful or hesitant to leave their home because they have complete confidence their place of work is cooperative to meeting the accessibility needs of their physical disability.

Finally, when asking the participants to identify if they use braces, it would have been helpful to clarify what type of braces they use by asking the participants to specify whether they use leg braces or arm braces. Due to this, research was not able to identify which type of braces were used. This study interpreted the indicated usage of braces as coinciding with participants who have little or no use of their legs; nevertheless, the representation of participants who use braces may also be contributed to the number of participants who have little or no use of their arms.

Recommendations for Social Work Practice, Policy and Research

Based on data obtained through this study, there are several critical recommendations to consider for the forthcoming purpose of social work practice, policy and research. First and foremost, it is crucial that social workers be provided with or seek out vital trainings that exclusively educates professionals on how to be mindful and attuned to the unique needs,

requirements, and accommodations of those who have a physical disability.

Similarly, social workers need to be equipped with the precise knowledge and attentiveness skills to recognize and differentiate how, where, and to what services individuals with physical disabilities need to be referred. This includes the indispensable need for social workers to be armed with the expertise and a general understanding of the specific types of physical disabilities they are dealing with.

Next, it is equally imperative for social workers to demonstrate and model an attitude that welcomes and accepts individuals with various types of physical disabilities. Whenever the opportunity arises, social workers should continuously seek input and guidance from individuals with physical disabilities in order to learn about their specific needs and desires. This prospectively demonstrates the social worker's investment in the individual and can empower the individual to feel and know their contribution is valued. In addition, modeling an attitude that is welcoming and acceptive can assist to facilitate and encourage the destigmatization of this indisputably vulnerable population, and also permit individuals with physical disabilities to unreservedly access services they need, at their discretion. Although the attitudinal perceptions of others was not categorically listed or specified as one of the leading barriers among the participants in this study, it was freely documented as a significant concern and obstruction among many participants.

In relation to modeling a welcoming and accepting attitude, social workers should adhere to and develop or improve the creation of universal design standards for an environmentally and architecturally accessible agency that encourages individuals with multiple forms of physical disabilities to obtain services without fear of being unable to access the premises. By supporting and easing any fears or reservations people with physical disabilities may have in regards to being able to access services, social workers can effectively empower and enhance individuals to constructively achieve and apply their self-determination.

Finally, even though there have been noteworthy changes and accommodations generated by the ADA, social workers can invest in campaigning for the fundamental movement of this law to be improved and restructured in order to ensure that progressively more and more individuals with physical disabilities are accommodated. Not only would this prove highly beneficial to the lives of people with physical disabilities, it would also enable social workers to be preemptive advocates and change agents for the greater good of influencing and being a voice for a population that is often misunderstood, disregarded, and unheard.

Conclusions

Often times, environmental or architectural barriers are something we take for granted until we become stricken with some sort of physical impairment that damages our ability to access an environment that was once easy to

conquer. This study sought to shed light on this troubling and habitually overlooked reality that millions of people face on a regular basis. As a result, three objectives were ascertained through the compilation of data received.

This research study has uncovered a variety of environmental barriers that impede the functioning of people with physical disabilities from seeking or participating in activities outside their home. These barriers include, but are not limited to the following: stairs and curbs, narrow doorways, public bathrooms, and uneven ground and sidewalks.

Research has also revealed the magnitude to which these barriers isolate people with physical disabilities. While the majority of participants testified to leaving their home every day, mostly to tend to work/school or meet bare necessities, it was discovered that the same majority of participants attested to feeling immense fear of leaving their home due to being exposed or subjected to environmental barriers. In addition to the level of fear associated with facing environmental barriers, this study has established that virtually all of the 363 participants identify environmental barriers as being the principle cause of their isolation and exclusion from society.

In conclusion, efforts from this research detected that a vast quantity of individuals ultimately do not feel there is an effort being made to ensure people with physical disabilities are able to access buildings and environments. The discovery of this formerly concealed reality is designed to serve as the paramount driving force behind motivating and inspiring social workers and

related social service agencies to induce change by facilitating the construction of a more accepting environment.

APPENDIX A
QUESTIONNAIRE

Questionnaire

Searching for Inclusion: Evaluating the Impact of Environmental Barriers on People who are Physically Disabled

1. What is your age?

2. What is your gender?

☐ Male

☐ Female

3. What is your ethnicity?

☐ Caucasian

☐ African American

☐ Hispanic or Latino

☐ Asian

☐ Prefer not to answer

☐ Other (please specify)

4. Do you have a physical disability that has been diagnosed by a licensed, qualified physician?

☐ Yes

☐ No

5. At what level do you have use of the following?

	Full Use	Partial Use	No Use
Use of your arms	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Use of your legs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Use of your eyes	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Use of your ears	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

6. Do you use any of the following assistive devices? (Please check all that apply.)

☐ Walker

☐ Braces

☐ Cane

☐ Wheelchair

☐ Mobility Scooter

☐ Hearing Aids

☐ Visual Aids

☐ Other (please specify)

7. Do you have trouble using or accessing the following? (Please check all that apply.)

- ☐ Handicapped parking spaces
- ☐ Stairs or curbs
- ☐ Narrow doorways
- ☐ Ramps and inclines
- ☐ Uneven ground and/or sidewalks
- ☐ Public bathrooms
- ☐ Public benches
- ☐ Signage
- ☐ Braille
- ☐ None of the above
- ☐ Other (please specify)

8. At what level do the above environmental barriers impact your life?

	No Impact	Some Impact	Extreme Impact	N/A
Lack of or inaccessible handicapped parking spaces	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Stairs and/or curbs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Narrow doorways	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Ramps and inclines	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Uneven ground and/ or sidewalks	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Public bathrooms	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Public benches	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other (please specify)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

9. Do the environmental barriers you listed above impact your life so much that it makes you afraid or hesitant to leave your house?

☐ Yes ☐ Sometimes ☐ No

10. How often do you leave the house?

- ☐ Every day
- ☐ A few times a week
- ☐ Once a week
- ☐ A few times a month
- ☐ Rarely

11. How often do you find it a challenge to leave your home?

☐ Never ☐ Sometimes ☐ Often

12. For what purpose do you leave your home?

- ☐ To go to school or work
- ☐ To meet bare necessities such as doctor appointments
- ☐ For social activities such as shopping or going to the movies
- ☐ All of the above
- ☐ I don't leave the house
- ☐ Other (please specify)

13. Do you ever feel excluded or isolated from society?

- | Yes all the time | Sometimes | No |
|--------------------------|--------------------------|--------------------------|
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

14. If you answered "yes" or "sometimes" to the above question, do you attribute feeling isolated or excluded to the environmental barriers you face?

- ☐ Yes
- ☐ Sometimes
- ☐ No
- ☐ N/A

15. Do you feel there is an effort being made to ensure people with physical disabilities are able to access buildings and environments?

- ☐ Yes
- ☐ No

APPENDIX B
INFORMED CONSENT

INFORMED CONSENT

Searching for Inclusion: The Impact of Environmental Barriers on People with Physical Disabilities

Investigator: Angela Yvonne Coate, under the supervision of Dr.
Rosemary McCaslin, Professor of Social Work, at California State University,
San Bernardino.

This study is designed to investigate the relationship between
environmental barriers and isolation among physically disabled persons' who are
between the ages of 18 and 65. The School of Social Work Sub-Committee of
the Institutional Review Board, at California State University, San Bernardino,
has approved this study.

You will be asked to complete short, online survey, which should take no
more than 5 minutes. Your participation in this study is completely voluntary. You
may decide not to participate without any negative consequences. Please be
aware that if you do decide to participate, you have the right to choose not to
answer any specific question, or you may choose to stop participating in the
study at any time.

Participation and information in this study is completely anonymous. To
remain confidential, all identifiable information such as age, gender, and type of
physical disability will be coded using numbers. You will not be asked for your
name.

This study has the potential to advocate, promote change, and bring awareness to the challenges faced by people with physical disabilities.

If you have questions about the research and your rights, please contact Dr. Rosemary McCaslin at rmccasli@csusb.edu or 909-537-5507.

If you are interested in obtaining the results from this study, you may find it at the John M. Pfau Library at California State University, San Bernardino after September 2014.

Do you agree to participate in this survey?

☐ I agree

☐ I disagree

APPENDIX C
DEBRIEFING STATEMENT

DEBRIEFING STATEMENT

Thank you for participating in this research project conducted by Angela Yvonne Coate, an MSW graduate student at California State University, San Bernardino.

Based on the results of previous research, my hypothesis for this study is that people with physical disabilities isolate themselves from the community and society due to inaccessible environments that pose a threat or fear one will not be able to navigate.

The results of this study will be available after September 2014 and can be found at the John M. Pfau Library at California State University, San Bernardino.

If you have any questions or would like to know more about this study, please contact Dr. Rosemary McCaslin, Department of Social Work, California State University San Bernardino, at 909-537-5507.

Thank you again for participating in this study!

APPENDIX D
AGENCY APPROVAL LETTERS

AGENCY APPROVAL LETTERS



Mr. Kevin Connors
Federal Program Director
Disability.gov
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, D.C. 20210

May 21, 2013

California State University
San Bernardino
5500 University Parkway
San Bernardino, CA 92407

To Whom It May Concern:

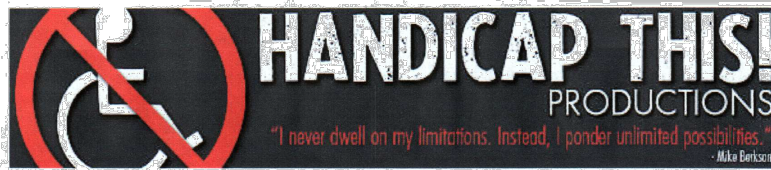
It is my understanding that Ms. Angela Coate wishes to conduct a research study for her Master's thesis on "The Impact of Environmental Barriers on People with Physical Disabilities," and would like to use Disability.gov as a platform to reach her target audience. Ms. Coate has informed me of the design of the study, as well as the targeted population.

Disability.gov will support this effort by providing Ms. Coate with assistance in distributing her survey for the successful implementation of this study.

Sincerely,

A handwritten signature in blue ink, appearing to be "K. Connors", written over the typed name and title.

Kevin Connors
Federal Program Director
Disability.gov



June 6, 2013

To whom it may Concern,

It is my understanding that Ms. Coate wishes to conduct a research study for her Master's thesis on "The Impact of Environmental Barriers on People with Physical Disabilities", and would like to use Handicap This Productions as a platform to reach her target audience. Ms. Coate has informed me of the design of the study, as well as the targeted population.

Handicap This Productions will support this effort by providing Ms. Coate with assistance in distributing her survey for the successful implementation of this study.

Sincerely,

Tim Wambach
Managing Director
Handicap This Productions
847-322-1297

Is Your Mind Handicap Accessible?

<http://www.HandicapThis.com>

<http://about.me/timwambach>



Approval Letter to Conduct Research

May 10, 2013

Dear Human Subjects Committee,

It is my understanding that Angela Coate wishes to conduct a research study for her Master's thesis with Loma Linda University PossAbilities on "The Impact of Environmental Barriers on People with Physical Disabilities". Ms. Coate has informed me of the design of the study as well as the targeted population.

I support this effort and will provide Ms. Coate with assistance in distributing her survey for the successful implementation of this study. If you have any questions, I can be reached by phone or email.

Sincerely,

PLEASE SIGN HERE _____

**Cotie Williams
Program Coordinator - PossAbilities & JFS
LOMA LINDA UNIVERSITY MEDICAL CENTER
25455 Barton Rd., Suite 109A, Loma Linda, CA 92354
909.558.6664 office | 909.558.6334 fax**

To Whom It May Concern:

I give Angela Coate my permission to distribute her survey titled
“Evaluating the Impact of Environmental Barriers on People with Physical
Disabilities” to the participants of the DisAbility Sports Festival. We will put it as a
link on our website page for people to complete.

Thank you,

A handwritten signature in black ink, appearing to read 'Aaron Moffett', with a long horizontal flourish extending to the right.

Aaron Moffett

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